Remarks

Reconsideration of the application is respectfully requested in view of the foregoing amendments and following remarks. Claims 36, 39-41 and 62-104 are pending in the application. No claims have been allowed. Claims 36, 79 and 101-104 are independent. Claims 62-104 are new. Claims 1-35, 37, 38 and 42-61 are canceled without prejudice to renewal.

Allowability of Claims Under 35 U.S.C. § 101

The Action rejects claims 25-34 under 35 U.S.C. § 101. To expedite prosecution, claims 25-34 have been canceled without prejudice. The claims in their present form are allowable under 35 U.S.C. § 101.

Allowability of Claims Under 35 U.S.C. 102

The Action rejects claims 1-7, 12, 14-17, 19-21, 23, 25-33, 35-44, 46, 48-49 and 51 under 35 U.S.C. 102(b) as allegedly being anticipated by U.S. Patent No. 5,821,986 to Yuan et al. ("Yuan").

For a rejection under 35 U.S.C. § 102 to be proper, the applied art must show each and every element as set forth in a claim. [*See* MPEP § 2131.] Applicants respectfully submit that the claims in their present form are allowable over the applied art because it does not teach or suggest all the claim limitations of claims 36 and 39-41.

Applicants respectfully traverse these rejections and submit that the claims in their present form are allowable over the applied art.

Independent Claim 36

As amended, independent claim 36 recites in part:

> receiving and processing first information for the sequence, wherein the first information indicates whether multiple spatial resolution coding is enabled for the sequence;
> if the first information indicates that multiple spatial resolution coding is enabled for the sequence, then for each of plural frames in the sequence,
>> receiving and processing second information at frame level in the bitstream, the second information indicating one or more spatial resolution scaling factors for the frame.

Applicants respectfully disagree that Yuan teaches or suggests the above-cited language of claim 36.

The Examiner states, "Regarding claim 36, the limitations claimed are decoding method of multi-resolution video encoding of claim 1, which reads on Yuan (i.e. fig. 19 video decoding process)." [*See* Action at p. 6.] Yuan describes "a hierarchical or layered structure in the spatial domain. That is, it performs video encoding at several spatial layers or resolutions which, in the illustrated embodiment, are dependent upon each other." [*See* Yuan at col. 5, l. 45-49.] However, the spatial resolutions described in Yuan differ only on a *layer-by-layer basis*. [*See* Yuan at col. 5, l. 65 – col. 6, l. 14.] Yuan does not describe any mechanism for changing resolutions on a frame-by-frame basis. More importantly, Yuan does not teach or suggest "at frame level . . . indicating one or more spatial resolution scaling factors for the frame," as recited in claim 36.

Yuan also differs significantly from the recited language of claim 36 with regard to the kinds of bitstream information that Yuan describes. Yuan mentions that "temporal prediction modes" for macroblocks are "specified in a bitstream header" for different layers. [*See id.* at col. 10, l. 8-10; col. 10, l. 60-62; col. 14, l. 37-40.] However, specifying *temporal prediction modes* in a header is different than, and leads away from, including information that "indicates whether multiple spatial resolution coding is enabled for the sequence" and "information at frame level . . . indicating one or more spatial resolution scaling factors for the frame," as recited in claim 36.

The present application describes example implementations of technology falling within the scope of claim 36. These example implementations have certain advantages over the prior art applied by the Examiner. For example, while multi-resolution coding improves performance in certain scenarios, in other scenarios in which multi-resolution coding is never used for a sequence, avoiding signaling overhead for resolution scaling factors helps reduce overall bitrate and/or improve overall quality for the same bitrate. One possible scenario is mentioned at the beginning of Section III of the Detailed Description in the application: "Because down-sampling discards high-frequency information, down-sampling is sometimes not well-suited for frames with perceptually important high frequency content (e.g., 'strong edges,' text, etc.)." [*See, e.g.,* Application at p. 14.]

Claim 36 is allowable. Claims 39-41 depend from claim 36 and are allowable for at least the reasons given above in support of claim 36. Therefore, the rejections of claims 36 and 39-41 under 35 U.S.C. § 102 should be withdrawn. Such action is respectfully requested.

Allowability of Claims Under 35 U.S.C. § 103

Claims 8-11, 13, 22, 45, 52, 53, 55-58, 60 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuan in view of U.S. Patent No. 6,937,291 to Gryskiewicz ("Gryskiewicz"). Claims 18, 24, 34, 47 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuan in view of U.S. Patent No. 5,414,469 to Gonzales et al ("Gonzales"). Claims 54 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuan in view of Gryskiewicz and further in view of Gonzales.

Applicants respectfully traverse these rejections. However, to expedite prosecution, claims 8-11, 13, 18, 22, 24, 34, 45, 47, 50 and 52-61 have been canceled without prejudice.

New Claims

Claims 62-104 have been added. Claims 62-78 depend directly or indirectly from claim 36 and are allowable for at least the reasons given above in support of claim 36. Independent claims 101 and 102 include language similar to language in claim 36 and are allowable for reasons similar to those given above in support of claim 36.

Independent claim 79 is allowable because the applied art does not teach or suggest, for example, "outputting first information for the sequence, the first information indicating whether multiple spatial resolution coding is enabled for the sequence; and if the first information indicates that multiple spatial resolution coding is enabled for the sequence, for each of plural frames in the sequence: outputting second information at frame level in the bitstream, the second information indicating one or more spatial resolution scaling factors for the frame." New claims 80-100 depend from claim 79 and are allowable for at least the reasons given above in support of claim 79. Independent claims 103 and 104 include language similar to language in claim 79 and are allowable for reasons similar to those given above in support of claim 79.

Support for the new claims can be found throughout the description in the Application. [*See, e.g.*, Application at pp. 7-9 and Figures 8 and 9.]

Request For Interview

If any issues remain, the Examiner is formally requested to contact the undersigned attorney prior to issuance of the next Office Action in order to arrange a telephonic interview. It is believed that a brief discussion of the merits of the present application may expedite prosecution. Applicants submit the foregoing formal Amendment so that the Examiner may fully evaluate Applicants' position, thereby enabling the interview to be more focused.

This request is being submitted under MPEP § 713.01, which indicates that an interview may be arranged in advance by a written request.

Conclusion

The claims in their present form should now be allowable. Such action is respectfully requested.

Respectfully submitted,

KLARQUIST SPARKMAN, LLP

One World Trade Center, Suite 1600
121 S.W. Salmon Street
Portland, Oregon 97204   By _____
Telephone: (503) 595-5300   Kyle B. Rinehart
Facsimile: (503) 595-5301   Registration No. 47,027